

REMARKS

No new matter has been added by the amendment. Claims 1-30 were originally filed. Claims 1-30 were subject to a restriction requirement. Claims 1-9 and 21-25 have been cancelled without prejudice. Claims 10-20 and 26-30 are pending in this application. Reconsideration of the present application, as amended, is respectfully requested. The Examiner's comments are addressed in substantially the same order as presented in the Office Action.

REJECTIONS UNDER 35 USC § 102

The examiner has rejected claims 10-14 and 16-20 under 35 USC 102(b) as being anticipated by Hoyle et al. (US 5,043,952), the '952 patent.

The present invention, as claimed, provides a system and method for attenuation of acoustic waves that travel through a body, such as a drill collar section, in a logging while drilling operation. The body is conveyed on a drilling tubular, such as drill pipe or coiled tubing. The system includes a plurality of heavy masses firmly attached to an outer surface of an outer wall of the body. The heavy masses constitute mass discontinuities that attenuate waves traveling through the body. The plurality of heavy hanging rings are spaced and sized for the maximum attenuation of acoustic pulses in a predetermined range. The masses may be asymmetric to preferentially attenuate signals passing through the body in a predetermined direction. Independent claims 10 and 16 have been amended herein to include a limitation wherein the body is conveyed into the borehole on a drilling tubular having a drilling fluid flowing therethrough.

The '952 patent does not disclose claim or suggest an acoustic attenuator for use while drilling and deployed in a wellbore on a drilling tubular. Applicants respectfully suggest that the

examiner has misinterpreted the ‘952 patent in certain aspects. The ‘952 patent discloses a wireline acoustic logging tool well known in the art. As clearly shown in Figure 1, the string that the examiner refers to as a drilling tubular, is an electric wireline well known in the field of logging and notoriously unsuited for use as a drilling tubular. A drilling tubular, as commonly referred to in the art, has a central passage for allowing a drilling fluid to flow therethrough. The Merriam-Webster online dictionary defines tubular as

1 a : having the form of or consisting of a tube,

and further defines tube as,

1 : any of various usually cylindrical structures or devices: as **a :** a hollow elongated cylinder; *especially* : one to convey fluids.

The depiction in Figure 1 is a classic example of a wireline logging operation having a truck mounted wireline system and a sheave for running the wireline in the hole with a logging tool 10 attached on the bottom of the wireline (col. 4, lines 20-26). In common usage, the wireline has electrical conductors for communicating with the logging tool. Such wireline logging operations are commonly done after the borehole is drilled and with the drilling tubulars removed from the wellbore. There is no disclosure, claim, or teaching in the ‘952 patent of a logging tool being deployed on a drilling tubular.

The examiner has stated that claim 20 is anticipated by the ‘952 patent (citing col. 1, lines 9-14). The cited passage has no disclosure or teaching of an acoustic attenuator for use with an acoustic measurement-while drilling tool deployed on a drilling tubular and having a drilling fluid flowing therethrough as claimed in amended claims 10 and 16.

As such, applicants respectfully submit that amended independent claims 10 and 16 and the claims respectively dependent on them are patentable under 35 USC 102 over the ‘952 patent.

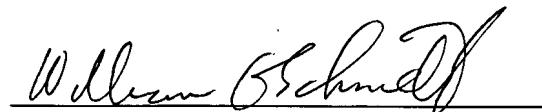
REJECTIONS UNDER 35 USC § 103

The examiner has rejected claim 11 under 35 USC 103(a) as being unpatentable over the '952 patent in view of Haugen (US 6,024,169). The examiner asserts that the '952 patent teaches the limitations of claim 10 except for the drilling tubular being a coiled tubing. The examiner asserts that Huagen teaches using a coiled tubing. As argued previously, the '952 does not disclose, claim, or teach the invention as claimed in amended independent claim 10. Therefore, applicants respectfully submit that independent claim 10 and its dependent claims, including claim 11, are patentable under 35 USC 103 (a) over the '952 patent in view of Haugen.

The examiner has rejected claims 26-30 under 35 USC 103(a) as being unpatentable over the '952 patent in view of Gill et al. (US 5,852,262) the '262 patent. The examiner asserts that the '952 patent teaches all of the limitations of claim 26 except for the masses being spaced asymmetrically. The '952 patent does not disclose, teach, or suggest a measurement-while drilling acoustic logging tool as claimed in amended claim 26. The examiner further states that the '262 patent teaches a plurality of masses asymmetrically spaced apart. Claim 26 has been amended to more clearly claim that the masses are asymmetric, as shown in applicants' Fig. 12, not the spacing as disclosed by the '262 patent. As such, applicants assert that claim 26 and the claims that depend on it are patentable.

Consideration of the application as amended is respectfully requested. The Commissioner is hereby authorized to charge any fee and credit any overpayment associated with this response and Request for Continued Examination to **Deposit Account No. 02-0429(414-13238-CIP)**.

Respectfully submitted,



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